



LARGE SYNOPTIC SURVEY TELESCOPE

# Large Synoptic Survey Telescope (LSST) The Gen3 Butler Registry Schema

Jim Bosch

DMTN-073

Latest Revision: 2018-02-19

## Abstract

Documentation for the SQL schema that will be used to manage datasets in the Gen3 Butler.



## Change Record

Version	Date	Description	Owner name
	2018-02-19	Initial version.	J. Bosch

*Document source location:* <https://github.com/lsst-dm/dmtn-073>



## Contents

<b>1 Overview</b>	<b>1</b>
<b>2 Datasets</b>	<b>1</b>
<b>3 The Dataset Table</b>	<b>1</b>
3.1 DatasetTypes and StorageClasses . . . . .	1
3.2 Composite Datasets . . . . .	1
<b>4 DataUnits</b>	<b>1</b>
4.1 Fundamental DataUnits . . . . .	1
4.2 Camera DataUnits . . . . .	1
4.3 SkyMap DataUnits . . . . .	1
4.4 Joins Between DataUnits . . . . .	1
<b>5 Collections and Provenance</b>	<b>1</b>
5.1 Collections . . . . .	2
5.2 Execution . . . . .	2
5.3 Run . . . . .	2
5.4 Quantum . . . . .	2
<b>6 Additional Metadata Tables</b>	<b>2</b>
6.1 StorageClass Metadata . . . . .	2
6.2 DatasetType Metadata . . . . .	2
6.3 DataUnit Metadata . . . . .	2
<b>7 Multi-User Environments</b>	<b>2</b>
7.1 Cross-Registry Auto-Increment Keys . . . . .	2
7.2 Namespaces for Collections and DatasetTypes . . . . .	2
7.3 Combining Layered Databases . . . . .	2

# The Gen3 Butler Registry Schema

## 1 Overview

This document is a human-readable description of the minimal SQL schema that will be used in the Gen3 Butler's Registry component.

While some Registry instances may have additional tables, all must provide at least the tables and views described here, and are generally expected to use the mechanisms described here for most extensions.

The normative, machine-readable version of the minimal schema can be found at: `daf_butler:config/regist`. The tables and figures in this document (including the descriptions of table columns) are generated from the contents of that file.

## 2 Datasets

### 3 The Dataset Table

#### 3.1 DatasetTypes and StorageClasses

#### 3.2 Composite Datasets

## 4 DataUnits

#### 4.1 Fundamental DataUnits

#### 4.2 Camera DataUnits

#### 4.3 SkyMap DataUnits

#### 4.4 Joins Between DataUnits

## 5 Collections and Provenance

---



## **5.1 Collections**

## **5.2 Execution**

## **5.3 Run**

## **5.4 Quantum**

# **6 Additional Metadata Tables**

## **6.1 StorageClass Metadata**

## **6.2 DatasetType Metadata**

## **6.3 DataUnit Metadata**

# **7 Multi-User Environments**

## **7.1 Cross-Registry Auto-Increment Keys**

## **7.2 Namespaces for Collections and DatasetTypes**

## **7.3 Combining Layered Databases**